

Dear FCCComments on Broadband Over Power Line Notice of Inquiry
ET Docket 03-104

Some background information.

I hold a PhD (EE) from Georgia Tech.

My areas of specialty are Electromagnetics and Communications

I have been a practicing engineer since 1962.

I hold amateur radio callsign W8NUE, which I first obtained in 1953.

I use my radio equipment to support emergency communications during times of emergencies, such as when there are hurricanes or floods.

My comments:

1) Broadband Over Power Lines is a bad idea from a technical point of view.

The spacings of power line installations allow significant radiation. I have a hard-wired IEEE 802 network in my home. I already have significant interference on HF (1.8 to 30MHz) receiving due to radiation from the network, which has much closer wire spacings (and consequently much lower radiation efficiency) than the power lines. Radiation from BPL would render HF operations nearly impossible. Broadband technologies should be restricted to radiation levels below .1 microvolts per meter per 1 kiloHertz of bandwidth at distances greater than 10 meters from the power lines.

2) Radiation from BPL at other frequencies (50 MHz and higher) could also cause significant interference to local Television broadcasts on the lower VHF channels, as well as amateur radio communications (50 to 54 MHz). With normal power line spacings (more wavelengths between wires), radiation will be even higher than at HF.

3) Unless there is a significant improvement in the responsiveness of the electric utilities in resolving interference problems, the situation will only be worse with BPL. My local electric company has done very little to reduce and/or eliminate interference on HF frequencies due to arcing on line insulators during damp weather. I have frequently measured interference levels of much more than 50 microvolts per meter (with measurement bandwidths of less than 3 kiloHertz).

4) The FCC has promised to protect the spectrum available to amateur radio

users (many of whom are professionals). This promise must be fulfilled.